

CLAIMS

1. A mattress comprising coil springs arranged as
5 spring units in covering pockets, said spring units being
arranged successively in elongate strings, the mattress
comprising a plurality of such interconnected strings
arranged side by side, c h a r a c t e r i s e d in that
at least one spring unit within at least one string has
10 a height that differs from the height of the other spring
units within the same string.

2. A mattress as claimed in claim 1, wherein a plu-
rality of springs in a plurality of strings have a height
15 that differs from the height of the other spring units
within each string.

3. A mattress as claimed in claim 2, wherein the
spring units with a deviating height are arranged in a
20 regular, preferably repetitive pattern.

4. A mattress as claimed in claim 2 or 3, wherein
the spring units with a deviating height are arranged
in groups of at least two such spring units, which are
25 arranged adjacent to one another.

5. A mattress as claimed in any one of claims 2-4,
wherein the strings having spring units with a height
that differs from the height of the other spring units in
30 each string are arranged so that these spring units are
offset relative to each other in the longitudinal direc-
tion of the strings.

6. A mattress as claimed in any one of claim 2-4,
35 wherein the spring units with a height that differs from
the height of the other spring units within each string

are arranged so that different zones are formed in the mattress.

7. A mattress as claimed in any one of the preceding
5 claims, wherein the strings are arranged so as to extend in the longitudinal direction of the mattress.

8. A mattress as claimed in any one claims 1-6,
wherein the strings are arranged so as to extend in the
10 transverse direction of the mattress.

9. A mattress as claimed in any one of the preceding
claims, wherein essentially all springs of the mattress
are essentially identical, the varying height of diffe-
15 rent spring units resulting in a varied bias of the
springs.

10. A method for manufacturing a mattress, compris-
ing the steps of
20 arranging coil springs as spring units in individual
covering pockets in succession in elongate strings;
interconnecting such strings side by side,
c h a r a c t e r i s e d by the further step of
arranging at least one spring unit within at least one
25 string with a height that differs from the height of the
other spring units within the same string.

11. A method as claimed in claim 10, wherein a plu-
rality of springs in a plurality of strings are arranged
30 with a height that differs from the height of the other
spring units within each string.

12. A method as claimed in claim 11, wherein the
spring units with a deviating height are arranged in a
35 regular, preferably repetitive pattern.

13. A method as claimed in claim 11 or 12, wherein the step of interconnecting the strings is carried out so that strings with spring units with a height that differs from the height of the other spring units within
5 each string are arranged so that these spring units are offset relative to each other in the longitudinal direction of the strings.

14. A method as claimed in any one of claims 10-13,
10 wherein the step of arranging at least one spring unit within at least one string with a height that differs from the height of the other spring units within the same string comprises the step of limiting the volume of the covering pocket for said at least one spring unit.

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15. A method as claimed in claim 14, wherein the volume of the covering pocket is limited by providing at least one surface interlocking for the covering, preferably by arranging a weld.

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16. A method as claimed in any one of claims 10-15, wherein the step of arranging coil springs as spring units in individual covering pockets comprises the steps of

25 folding a covering material in the longitudinal direction of the string;
 arranging welds in the transverse direction for partitioning off covering pockets;
 inserting springs into the covering pockets; and
30 arranging a weld in the longitudinal direction of the string so as to seal the opening of the covering pockets.

17. A method as claimed in claim 16, wherein the
35 volume of at least one covering pocket is limited by arranging at least one additional weld in the longitudinal direction in said covering pocket.

18. A method as claimed in claim 17, wherein said additional weld is arranged in the vicinity of said weld in the longitudinal direction of the string so as to seal the opening of the covering pockets.

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19. A method as claimed in claim 17, wherein said additional weld is arranged at a distance from said weld in the longitudinal direction of the string so as to seal the opening of the covering pockets, preferably in an opposite side of the covering pocket.

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20. A device for manufacturing a mattress, comprising means for arranging coil springs as spring units in individual covering pockets in succession in elongate strings, and means for interconnecting such strings side by side,

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characterised in that it further comprises means for varying the height of at least one spring unit within at least one string relative to the height of the other spring units within the same string.

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21. A device as claimed in claim 20, wherein the means for varying the height of at least one spring unit within at least one string relative to the height of the other spring units within the same string comprises means for limiting the volume of the covering pocket for said at least one spring unit.

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22. A device as claimed in claim 20 or 21, wherein the means for arranging coil springs as spring units in individual covering pockets in succession in elongate strings comprises

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means for folding a covering material in the longitudinal direction of the string;

first welding equipment for arranging welds in the transverse direction for partitioning off covering pockets;

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insertion means for inserting springs into the covering pockets; and

second welding equipment for arranging a weld in the longitudinal direction of the string so as to seal
5 the opening of the covering pockets.

23. A device as claimed in claim 22, wherein the means for varying the height of at least one spring unit within at least one string relative to the height of the
10 other spring units within the same string comprises means for arranging at least one additional weld in the longitudinal direction in said covering pocket.

24. A device as claimed in claim 23, wherein means
15 for arranging at least one additional weld in the longitudinal direction in said covering pocket comprises a means for making a relative motion in the transverse direction between the string that is to be welded and the welding equipment.

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25. A device as claimed in claim 24, wherein the means for making a relative motion in the transverse direction between the string that is to be welded and the welding equipment comprises a movable supporting
25 table for supporting the string during welding.

26. A device as claimed in claim 24, wherein the means for making a relative motion in the transverse direction between the string that is to be welded and
30 the welding equipment comprises displaceable welding equipment.